TOP SECRET

IMAGERY
ANALYSIS
DIVISION

PIR

PHOTOGRAPHIC INTELLIGENCE REPORT

[redacted]

LAN-CHOU NITROGEN FERTILIZER PLANT

LAN-CHOU, CHINA

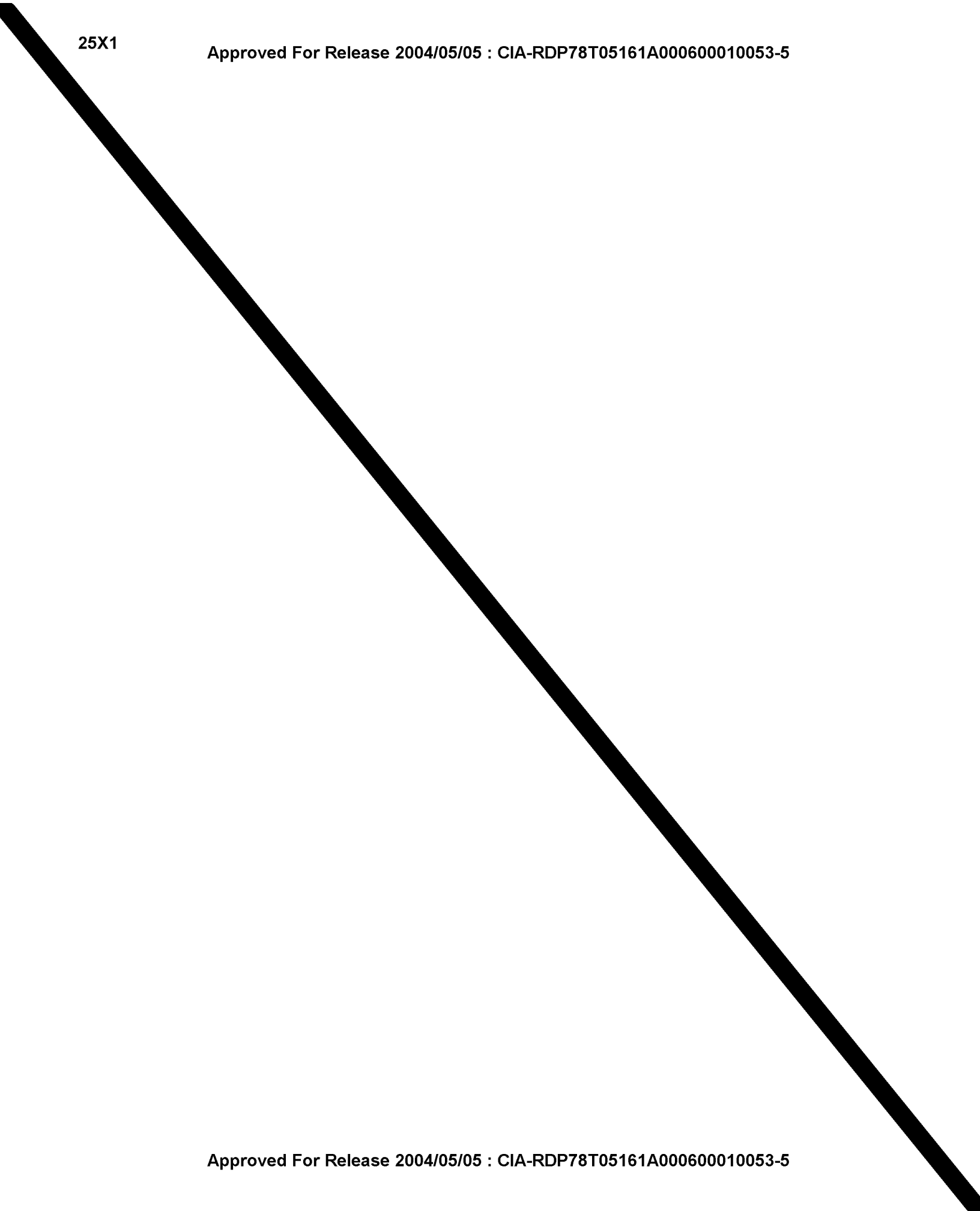
[redacted] 25X

CIA/PIR 65097

[redacted] 25X

DATE MAR. 1966
COPY 90
PAGES 7

TOP SECRET



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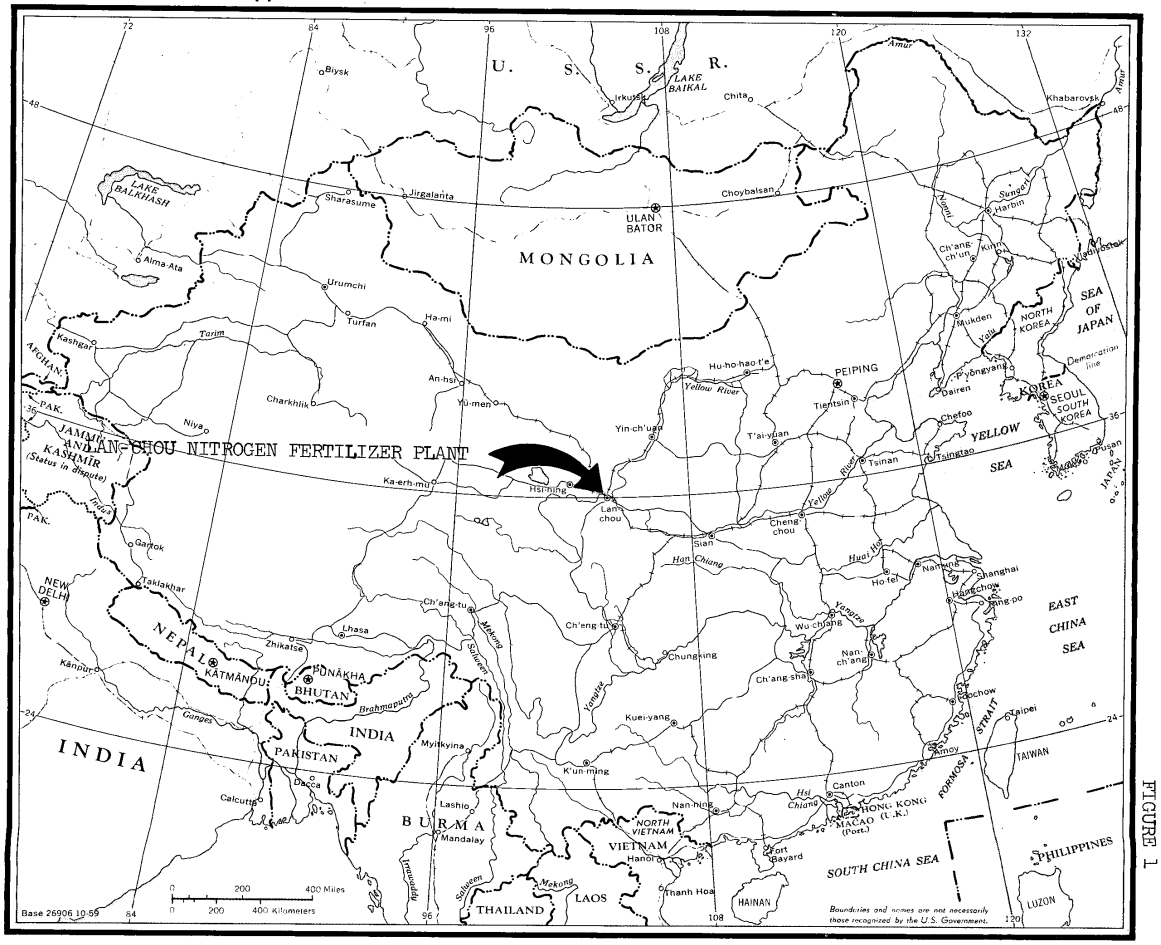
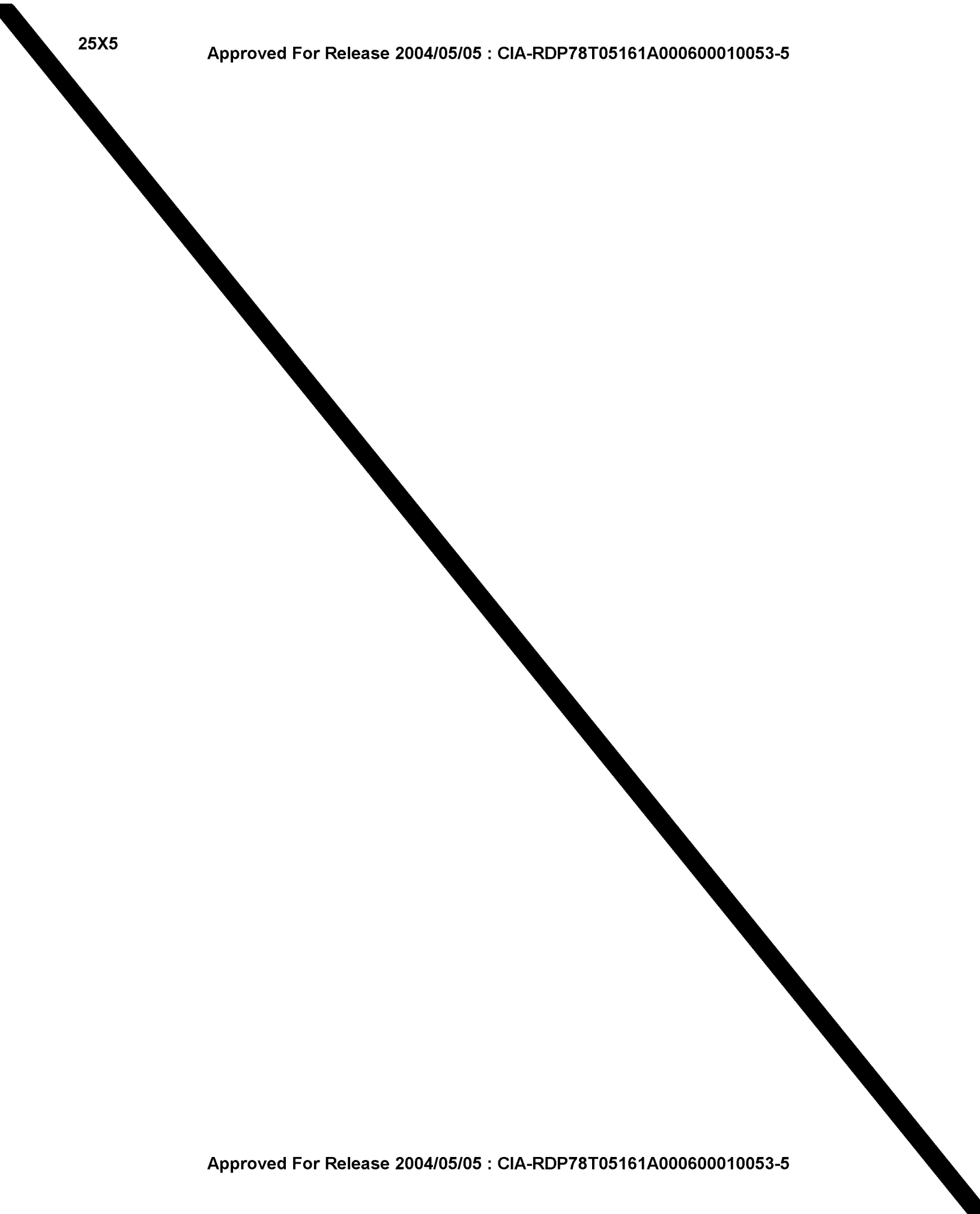
25X1 TITLE NPIC [redacted] PIR 65097 MAR. 1966 SEC. CL. TS/[redacted] LOCATION 25136 25X1



LAN-CHOU NITROGEN FERTILIZER PLANT

PIR - 65097
FIGURE 1



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CIA IMAGERY ANALYSIS DIVISION

LAN-CHOU NITROGEN FERTILIZER PLANT
LAN-CHOU, CHINA

A large nitrogenous fertilizer plant is located in the industrial complex west of Lan-chou on the south bank of the Huang-Ho (Yellow River). This installation is situated approximately 8 nautical miles west-northwest of the classification yards in Lan-chou, at the approximate geographic coordinates of 36 07N - 103 36E.

This report is based on photographic interpretation of overflight and satellite coverage from [redacted] with emphasis on the identification of major production facilities and developments within the installation since 1963. The following descriptions are keyed to annotations on Figure 4: 25X1

1) Hydrogen gas for the synthesis of ammonia is produced in this section. Gas produced from coal in the retorts (Item a) is processed in the contact ovens (Item b). After removing the carbon dioxide in the purification towers (Item c) relatively pure hydrogen is obtained. Three additional retorts, under construction in 1963, appear to be complete by [redacted] doubling the number present prior to 1963. The contact oven building and the gas purification area were also enlarged during the same period. 25X1

2) Ammonia is manufactured in this section, in the two converter towers (Item d), by passing a proper ratio of hydrogen and nitrogen over a catalyst, following compression and heating in the adjacent buildings. Construction in progress during 1963 and apparently complete by [redacted] has enlarged the main compressor building (Item e) by approximately fifty percent. A second cooling tower (Item f) has also been added in this area of the plant during this period. Construction on an addition to a large unidentified processing building (Item g) directly west of the converter towers was in progress in 1963, and was still continuing in 1965. However, an addition to the synthesis section (Item h) adjacent to the ammonia converters has shown no progress since 1963. X1

3) Nitric acid is manufactured in the production building (Item i) of this section, by oxidizing ammonia following processing in the adjacent inter-connected buildings. Construction in progress during 1963 and apparently completed by [redacted] has enlarged the nitric acid production building by approximately sixty percent. 25X1

4) Ammonia and nitric acid are combined in the reactor building (Item j) and prilled in the adjacent large towers (Item k). The prilled ammonium nitrate is then conveyed to the finishing and shipping building (Item l). Facilities in this section of the plant are unchanged since 1963.

Other processing and production facilities are present south and west of the ammonia/nitric acid production sections. These are unidentified as to type, but are probably for the production of organic chemicals such as methanol and formaldehyde, which can be synthesized from the hydrogen, nitrogen, carbon monoxide, carbon dioxide, and other elements and compounds available at this installation or for the production of other types of nitrogenous fertilizers. No significant changes have been noted at these facilities since 1963, except for the addition of two small buildings (Item m). Several small warehouses and shops have also been added since 1963, in the shipping area (West portion) of the plant. Steam and power are supplied to this installation from a power plant located east of this site.

Lan-chou Chemical Fertilizer Plant is a large producer of ammonia and nitric acid, with ammonium nitrate as the major finished product. A major expansion of ammonia and nitric acid production facilities during and since 1963 has probably increased the productive capacity for these items by approximately fifty percent. The majority of this expansion program appears complete by [redacted] photography, 25X no significant new construction program appears to be in progress. Other types of nitrogen fertilizers may also be produced, as well as chemicals derived from the available components. No ammonium sulfate or sulfuric acid production sections are apparent. Facilities for the storage of liquids at several points and the presence of tank cars at these locations suggests that at least a portion of the nitric acid and ammonia produced may not be converted to ammonium nitrate, but is instead shipped to consumers. It should be noted that the facilities present at this installation are almost identical with those at the Tai-yuan Chemical Fertilizer Plant.

[redacted]

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REFERENCES

[redacted]

MAPS AND CHARTS

Locator Map, Communist China, 26906, 10-59 (UNCLASSIFIED)

ACIC, U.S. Air Target Chart, Series 200, Sheet 0383-22H1, 2nd Edition, May 1964, Scale 1:200,000 (SECRET)

REQUIREMENT - C-RR5-83,036

CIA/IAD PROJECT - 30432-6

[redacted]

25X

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FIGURE 3

NITROGEN FERTILIZER PLANT
LAN-CHOU, CHINA
36 07N - 103 36E

25X

[redacted] 25X

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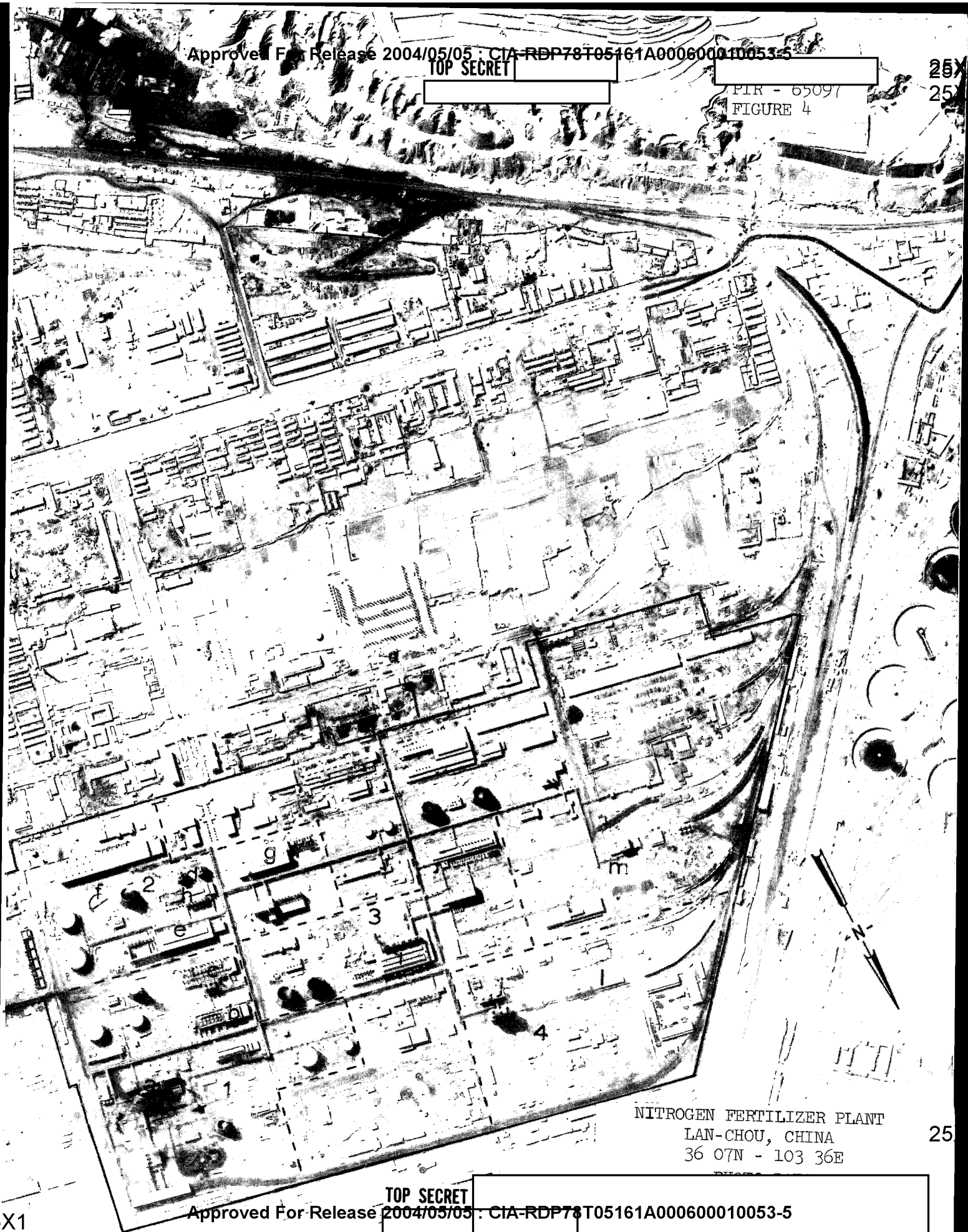
FIGURE 4



NITROGEN FERTILIZER PLANT
LAN-CHOU, CHINA
36 07N - 103 36E

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